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| 13CS41E1 | - | SOFTWARE ARCHITECTURE |

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| Hours / Week | : | 4 |  | Sessional Marks | : | 40 |
| Credits | : | 4 |  | End Examination Marks | : | 60 |

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| **UNIT - I** |
| **Introduction to Software Architecture**: An Engineering Discipline for Software, Status of S/W Architecture. **Architecture Business Cycle**: introduction, Where do Architectures Come from, Software Processes and the Architecture Business Cycle, Features of Good Architecture. |
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| **UNIT – II** |
| **Architecture Styles**: overview Pipes and Filters, Data Abstraction and Object Oriented organization, Even-based Implicit Invocation, Layered Systems, Registers, Interpreters, Process Control, Other Familiar Architectures, and Heterogeneous Architectures.**Shared Information Systems**: Introduction, Database Integration, Interpretation in Software Development Environments, Architectural Structures for Shared Information Systems. |
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| **UNIT – III** |
| **Architectural Design Guidance**: Guidance for User Interface Architectures.**Case Study in Inter-Operability**: World Wide Web. **Design Patterns**: Introduction, Pattern Types, Architectural Patterns, Structural Patterns, Patterns for Distribution, Patterns for Interactive Systems. |
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| **UNIT – IV** |
| **Formal Models And Specifications**: The value of architectural formalism, formalizing the Architectural of a Specific System, formalizing an Architectural Style and Architectural Design Space. **Case Study of an Industry Standard Computing Infrastructure**: CORBA**Architectural Description Languages**: ADL’s today, capturing Architectural Information in an ADL, Application of ADL’s in system Development, Choosing an ADL, Example of ADL. |
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| **UNIT – V** |
| **Reusing Architectural Assets within an Organization**: Creating Products and Evaluating a Product Line, Organizational Implications of a Product Line, Component Based Systems. **Software Architectures in Future**: Legacy Systems, Achieving architecture, from Architecture to System. |
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| TEXT BOOKS |
| 1. S/W Arch. Perspective: on an Emerging Discipline by Mary Show, David Garlan, 1996, PHI.
2. Software Architecture in Practice by Len Bass, Paul Elements, Rick Kazman, 1998, PEA
3. Design Patterns, Gamma et al, 1995, PEA.
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| REFERENCE BOOKS |
| 1. Measuring the Software Process: A Practical Guide to Functional Measure, Garmus, Herros, 1996, PHI.
2. Meas. Software Process: Stat. Proce. Cont. for Software process Improvements, Florac, Carleton, 1999, PEA.
3. Introduction to Team Software Process, W.Humphery, 2002, PEA.
4. Software Design: Methods and Techniques, Peters, 1981, Yourdon.
5. Pattern Oriented Software Architecture, Buschmann, 1996, Wiley.
6. An Introduction to Software Architecture, Gamma, Shaw, 1995, World Scientific.
7. Software Architecture, Shaw, gamma, 1996, PHI.
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